Appl. No. 09/597,192
Amdt. dated September 22, 2004
Reply to Office action of August 6, 2004


<u>Amendments to the Claims:</u>

This listing of claims will replace all prior versions, and listings, of claims in the application:


<u>Listing of Claims:</u>

1.      (Currently amended) An adapter, comprising:

a lane receiver configured to receive a differential signal on a differential pair of conductors, and configured to convert the differential signal into a sequence of code symbols;

a decoder configured to decode the sequence of code symbols to produce a <u>first</u> sequence of received symbols, the ~~sequence of received signals~~ <u>including start and training symbols, where the decoded value of the start symbol is unaffected by inversion of the differential signal and the decoded value of the training symbol is affected by inversion of the differential signal</u>; and

a circuit configured to determine if the <u>first</u> sequence of received symbols is incorrect due to inversion of the differential signal, wherein the lane receiver is configured to correct for inversion of the differential signal if the circuit determines inversion exists.


2.      (Original) The adapter of claim 1, wherein the decoder decodes code symbols from a running-disparity code having a positive running disparity symbol and a negative running disparity symbol for each input symbol.


3.      (Canceled).


4.      (Currently amended) The adapter of claim 2<u>3</u>, wherein the start symbol has <u>the a</u> positive running disparity symbol that is the inverse of the negative running disparity symbol for the start symbol.

5.      (Currently amended) The adapter of claim 23, wherein the inverse of the positive running disparity symbol for the training symbol decodes to a symbol different than the training symbol, and wherein the inverse of the negative running disparity symbol decodes to a symbol different than the training symbol.

6.      (Original) The adapter of claim 5, wherein the circuit locates the start symbol, identifies the training symbol relative to the start symbol, determines if the training symbol has an incorrect value corresponding to the inverse of the positive or negative running disparity symbol for the training symbol.

7.      (Original) The adapter of claim 6, wherein the circuit toggles correction of differential signal inversion if the training symbol has an incorrect value corresponding to the inverse of the positive or negative running disparity symbol for the training symbol.

8.      (Currently amended) The adapter of claim 1, wherein the decoder is a an 10B/8B code decoder.

9.      (Currently amended) The adapter of claim 1, further comprising:
   a second lane receiver configured to receive a second differential signal on
      a second differential pair of conductors, and configured to convert
      the second differential signal into a second sequence of code
      symbols; and
   a second decoder configured to decode the second sequence of code
      symbols to produce a second sequence of received symbols, the
      second sequence of received signals, symbols including start and training
      symbols, where the decoded value of the start symbol is unaffected
      by inversion of the differential signal and the decoded value of the
      training symbol is affected by inversion of the differential signal;
   wherein the circuit is further configured to determine if the second
      sequence of received symbols is incorrect due to inversion of the

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second differential signal, wherein the second lane receiver is configured to correct for inversion of the second differential signal if the circuit determines inversion exists.

10.    (Currently amended) The adapter of claim 9, wherein the circuit is configured to combine the first and second sequences of received symbols to produce an output symbol stream.

11.    (Currently amended) A method of correcting for differential signal inversion, wherein the method comprises:

converting a first differential signal into a sequence of code symbols;

decoding the sequence of code symbols to form a first sequence of received symbols, the first sequence of received signals symbols including start and training symbols, where the decoded value of the start symbol is unaffected by inversion of the first differential signal and the decoded value of the training symbol is affected by inversion of the first differential signal;

determining if the first sequence of received symbols is incorrect due to inversion of the first differential signal; and

inverting the first sequence of code symbols if inversion is determined.

12.    (Canceled).

13.    (Original) The method of claim 11, wherein the code symbols are determined according to a running disparity code having a positive running disparity symbol and a negative running disparity symbol corresponding to each input symbol.

14.    (Canceled).

15.    (Currently amended) The method of claim ~~13~~14, wherein the start symbol has the ~~a~~ positive running disparity code symbol that ~~is~~ the inverse of the negative running disparity code symbol for the start symbol, and wherein the inverse of the positive and negative running disparity symbols for the training symbol decodes to one or more incorrect symbols different from the training symbol.

16.    (Original) The method of claim 15, wherein the determining further includes:

determining if the training symbol has been decoded as one of said incorrect symbols.

17.    (Original) The method of claim 13, wherein said running disparity code is an ~~8B/10B~~ code.   _a 10B/8B_

18.    (Original) The method of claim 11, further comprising:

converting a second differential signal into a second sequence of code symbols;

decoding the second sequence of code symbols to form a second sequence of received symbols; and

determining if the second sequence of received symbols is incorrect due to inversion of the second differential signal.

19.    (Currently amended) The method of claim 18, further comprising:

determining whether at least one of the first ~~or~~ _and_ second sequences of received symbols have errors;

inverting at least one of the first ~~or~~ _and_ second sequences of code symbols if _the at least one of_ the ~~respective~~ first ~~or~~ _and_ second sequences of received symbols have errors; and

~~inverting sequences of code symbols for which the sequence of received symbols is determined incorrect due to inversion; and~~

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combining the <u>first and second</u> sequences of received ~~signals~~ *symbols* to form a

single output symbol stream.